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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,455	01/16/2001	David Hegg	00-4222	5279

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EXAMINER
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JEANTY, ROMAIN

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/761,455

Applicant(s)

HEGG, DAVID

Examiner

Romain Jeanty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities, "by" on page 27 should be -- be--. Appropriate correction is required.

### ***Claim Objections***

2. Claim 1 is objected to because of the following informalities: The acronym "RPDD" is not defined. Appropriate correction is required.

Furthermore, claim 1 recites the acronym "RPDD". It is suggested that applicant defines the meaning of RPDD.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-3 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental

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premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological

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arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

In the present application, method claims 1 and 3 fail to recite useful, concrete and tangible result" and the claims recite no structural limitations (i.e., computer implementation). None of the steps in the body of the claims indicates any connection to a computer or technology. The step of "calculating..., dividing..., establishing..., repeating..., and reducing..." could be performed manually by a person without use of technology means.

From this it can be seen that the broadest reasonable equivalent disclosed fails to pass the first prong technological arts test and therefore recites non-statutory subject matter under 35 USC 101.

Claim 2 depends from independent claim 1; and is therefore rejected under 35 U.S.C. 101 rejection.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 1 recites the limitation " the mean, and the standard deviation". It is unclear as to what mean and standard deviations applicant is referring. There is insufficient antecedent basis for these limitations in the claim.

Claim 2 recites that the ratio probability density distribution formed in *step 1*. It is unclear as what step 1 applicant is referring to. Appropriate correction is required.

Claim 2 depends on claim 1; and is therefore rejected under 35 U.S.C. 112 second.

### **Claim Rejections - 35 USC § 102**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by James "A simulation model for the comparison of sampling strategies used in estimating total residential market value for a geographical area".

As per claim 1-3, as best understood, James clearly teaches the inventions as claimed. In particular, James teaches: (a) calculating a ratio where the mean of a provided statistic is divided by the median of the sample population, this ratio a median ratio; b) calculating, from a collection of the median ratios of step (a), the standard deviation of all of the median ratios of the sample population; c) dividing the standard deviation of all of the ratios of the sample population by four; d) establishing a median of this series of ratios and establishing groupings by moving in each direction from this median of median ratios by an amount determined from c) above; e)

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calculating a ratio probability density distribution by dividing the actual number of ratios found in each grouping by the total of all ratios; f) repeating steps a - e for several sample populations; and g) reducing the ratio probability density distributions to a single composite RPDD figure 1 (See pages 211-219)

As per claim 2, James further teaches:

a) using the composite RPDD figure of claim 1, to a set of lowest value, the median value, the average value of the sample population and adjusting to form an identical statement between ratio probability density distribution formed in step 1 to the sample distribution being analyzed in step two; and b) comparing within groupings the expected to the actual number found (See pages 211-219).

As per claim 3, James teaches a method of analysis of statistical data by which a housing market analysis can be made to produce a set of expected value groupings of a total population from information obtained from sample populations, comprising the following steps: a) using a median statistic and an average statistic in the sample, calculating a median ratio; b) calculating a standard deviation of these median ratios; c) dividing the standard deviation of the median ratios by four (4); d) using the median of the median ratios, establish groupings by moving in each direction from this median of the median ratios by the amount determined in step (c), these groupings being the ratio probability density distribution; e) combining the ratio probability density distribution (d) for the groupings where more than one median ratio is involved, by inspection and selection of a probability for a specific grouping so that the sum the of the probabilities selected total 50 percent for all groupings below the median and 50 percent for all groupings above the median; f) using a formula  $1 - 1 \div (1/2 \text{ grouping number} \times 1/2 \text{ grouping}$



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number) for determining the groupings right of the median above the number observable in the groupings, these new groupings being the ratio probability density distributions to form a set of expected statistics from the sample data; g) attaching the ratio probability density distributions to RPDD matching the entry values, median values, average values and total values of the same population; h) comparing the expected number of statistics within each number grouping and compare it with the actual number of statistics found in the same grouping and making statistical inferences as to past, present and future real estate needs (See pages 211-219)

### **Conclusion**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Romain Jeanty whose telephone number is (703) 308-9585. The examiner can normally be reached on Mon-Thurs 7:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq R Hafiz can be reached on (703) 305-9643. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Romain Jeanty

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Primary Examiner 3623

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September 30, 2004

  
**ROMAIN JEANTY**  
**PRIMARY EXAMINER**  
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